

Mastering the Knowledge You AREN'T Taught in School

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Sure indicators that the economy is still bad

- **CEO's are now having miniature golf outings**
- **McDonalds is selling the 1/4 ounce on their value menu**
- **The fastest growing job is now jury duty**
- **I got a pre-declined credit card in the mail**
- **Motel Six won't leave the lights on**
- **The Mafia is laying off judges**

You had to ask a Construction Faculty to speak on professional responsibility

Think of your education as a concrete mix

Lots of different concretes can be used to satisfactorily meet the requirements for a particular project need.

But we all know that if we put more effort into optimizing the mixture proportion for the required application, we get something that performs **MUCH** better

Think of your education as a concrete mix

The Aggregates - your math and science core

The Cement – your engineering coursework

The Fly Ash – your social sciences/humanities

What is Missing?

Water – this is your energy put into learning those topics

The Admixtures – This is the education **outside** the classroom = the difference maker

Think of your education as a concrete mix

We see students progress in their university education at ASU in three realms:

Academic Progression

Personal Progression

Professional Progression

All three move simultaneously, but not necessarily at the same speed

Unfortunately many universities only address Academic progression in their student preparation

You all know the old adage

**It's Not WHAT you
Know but....**

Ernzen's take:

“You don't know concrete until you know the people and the organizations that make up the concrete industry”

“The who you know is just as important as the what you know”

Student – Industry Interaction

- We know that it is mutually beneficial to all parties involved:
 - Students gain experience from it and more importantly **they gain valuable professional development from it.**
 - Industry gains by getting to see and test drive future employees
 - So why don't we do more of it????

We know the 'What' we have to learn So just what is this 'Who'?

- We understand that we have to know calculus, physics, the design codes
- Where do we learn who works for who and where is each players profit come from?
- Where do we learn how to be on time for meetings?
- Who teaches you proper attire and etiquette at work?
- Where do students learn how to work with a 'bad' boss?
- Who teaches one to deal with difficult coworkers?

We know the 'What' we have to learn So just what is this 'Who'?

- How does a student handle ethics issues they see in their part time job?
- How does a student discuss “work life balance” during a job interview?
- How does a student handle past “transgressions” in their personal life during the interview process?
- **Little of this shows up in the current curriculum, if we don't address it – are we educating our students the best we can?**

Mastering the 'Who' is your Professional Development

- There are those who say that this is not the role of academia
- They will say that we don't have time - there isn't room in the curriculum - ABET has too much other stuff in there - we don't get rewarded for it – the student needs to do this themselves
- And yet as a profession we are often critical of the lack of preparedness among our graduates
- I ask: **If not now, when? If not you, who?**

What kinds of things can you do?

- Industry Guest Speakers often with hands on classes
- Field trips to industry sites
- Homework assignments requiring industry response
- Industry Speakers for student club meetings
- Student attendance at Industry Association Meetings
- Student support at Industry Networking Events
- Student involvement in Industry Service Projects
- Solicit industry support for student competitions
- Start small – consistently increase your touches
- Aim for required internships if not already there

So how does one do “Professional Development”?

- We start off very early on (first construction class) and start immersing them in as many industry encounters as we can.
- To do so we reach out to as many industry organizations as possible and try to find ways to interact and network with those industry groups.
- It can happen in courses – much of it centers in the student club activities – then it culminates with two (2) **mandatory** summer internships

The Pinnacle - Summer Internships

- These are required courses comprising 1 credit hour each student must sign up and pay for.
- Must work a minimum of 320 hrs to receive credit
- Program assists student with finding the internship if needed – student negotiates a ‘contract’ with the employer on tasks to be performed
- Student prepares an academic document worth 50% of the course grade which is combined with an evaluation by the employer.
- This is where the previous PD work pays off

Construction Management Student Competitions

- The Associated Schools of Construction conducts a CM competition each year
- Think of ASCE's Concrete Canoe on Steroids
- Companies develop project problems and challenge student teams to solve them.
- Combination of RFQ/RFP plus bid day chaos!
- Students develop a solution and present results
- Over 1000 students attend from Region 6 alone
- Companies host a concurrent job fair and Hire!

CM Student Competition In the War Room



CM Student Competition Post Presentation Relief



Supporting Underrepresented Groups in the Construction Program

- We have created programs to specifically aid two underrepresented groups in the construction industry - women and ethnic minorities
- In each case we have reached out to the industry and asked for support to assist these students.
- The primary focus of these programs has been the creation of a **one on one mentoring program** for each student desiring one, plus programs tailored to their needs and desires.
- Mentor/mentees usually meet twice per semester

AWIC Resume Writing Mock Interview Class



AWIC Students on a Job Site Tour



Mentee Testimonial

I don't know what I would do without Elena ! She doesn't mind that I call her all the time. She answers my little questions and even helped me with a very large project. It's nice to know that you have someone that genuinely cares about my education and experience at the Del E. Webb School. She is the perfect mentor."



Networking...On the links



Students volunteer to work the industry golf tournament registration table and run a “marshmallow driving contest” to raise cash
Made **\$200** in fall 2012

More Networking...at the Bowling Alley



This cost nothing more than an afternoon spent bowling with industry members (and \$40 entry fee)

ACI Meeting-PCA's Economist-35 students!



ASU students recruiting HS students at AZ Construction Career Days



Freshman Students at a Ready Mix Plant



Concrete Countertop Industry Speaker



Students love playing in the mud....



It is nice when your student- industry interaction has a product!

JIM ERNZEN

EDWIN WEAVER

JIM ROGERS



WILLSON

CLINTON WILKINS

Students Proctoring ACI Field Grade 1



Students Proctoring ACI Field Grade 1



ACI Classroom-Our product out Front!

This is **CONCRETE** *Country!*

JIM FRINCH
JIM ROGERS
JIM WILSON
EDWIN WELLS
CLINTON WILKINSON

Inspiration on Classroom Back Wall

think
harder.
concrete™

Raising the Program profile on campus: the Engineering Patio 'Extreme Makeover'



Student Service Project on Campus

- I was approached by the engineering college in fall 2012 to help them fill in a hole in a patio area that they use for student gatherings
- Created a student project in a course to see who could design the best solution
- Students were required to create the design, prepare cost estimates and construction schedules
- Industry mentors were assigned to each team for support
- Students presented their results and Engineering College personnel were jury.

Student Service Project Winning Design

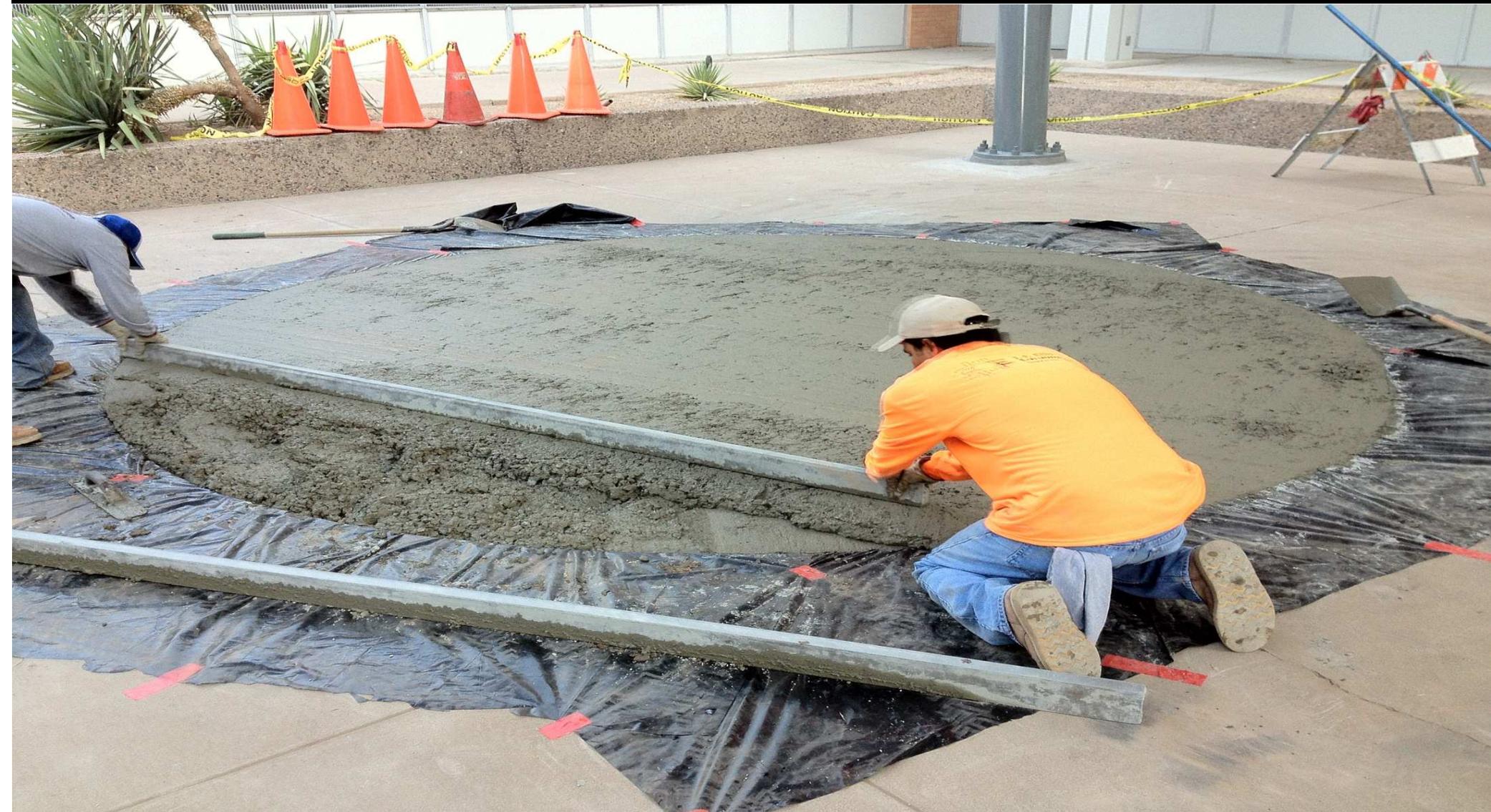


- 16' round slab, design that demonstrates multiple media available for decorative concrete work, as well as representing Engineering at ASU
- ASU Sunburst logo, will be acid etched and stained ASU Maroon and Gold.
- Acid Etched compass and square, machine cogs, and school's name.
- Outer ring originally recycled glass aggregate was later scratched

Concrete Students have all the tools...!



Bring on the Mud (contractor support)



Putting down the initial stain



Student work – alumni support industry supervision



Acid Etching the Outer Ring



Placing the Design



More Design Prep



A Great Job on the “What”



A Better Job on the “Who”



Can some of this work for you?

- We take advantage of our urban location
- And we have carefully cultivated that relationship
- Many of these examples are relatively low cost
- Students petition university for club support money
- There are student fees on some classes to support outside activities
- The **key** is get students **interacting** with industry
- You will see student's personal confidence soar and the professional responsibility rise along with it.
- **We owe it to our students-they owe it to themselves**

Developing Professionalism

Faculty:

“Utilize your industry”

Students:

**“ never underestimate
the power of working
the registration table”**

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